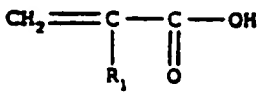
I Claim:

1. A composition comprising, in a cosmetically acceptable support suitable for dyeing the hair, at least one direct dye and at least one crosslinked polymer containing acrylic residue units of the structure

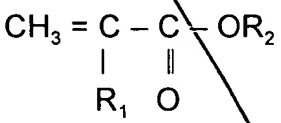


in which R_1 denotes H, CH_3 or C_2H_5, and C_{10}-C_{30} alkyl acrylate residue units, wherein said composition is a direct dyeing composition for the hair, and wherein said at least one direct dye is chosen from an acidic anthraquinone dye, a cationic anthraquinone dye, an acidic azo dye, and a cationic azo dye.

2. A composition according to claim 1, wherein said at least one crosslinked polymer comprises:

(a) residue units of one of an acrylic, methacrylic or ethacrylic acid,

(b) residue units of an acrylate of formula:



in which:

R_1 denotes H or CH_3 or C_2H_5, and

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

R_2 denotes an alkyl radical having from 10 to 30 carbon atoms, and,

(c) residue units of a crosslinking polymerizable monomer containing a group

$CH_2 = C\langle$

and also containing at least one other polymerizable group, wherein the unsaturated bonds in said $CH_2 = C\langle$ group and said at least one other polymerizable group are not conjugated with each other.

3. A composition according to claim 2, wherein at least one of the following conditions is true:

(1) said at least one crosslinked polymer is a terpolymer, and wherein said terpolymer contains: (a) residue units of one of acrylic or methacrylic acid;

(2) R_1 denotes H or CH_3;

(3) R_2 denotes a C_{12}-C_{22} alkyl radical; and

(4) said crosslinking polymerizable monomer is a polyallyl ether.

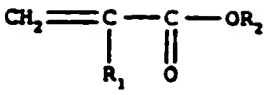
4. A composition according to claim 3, wherein said polyallyl ether is selected from polyallylsucrose and polyallylpentaerythritol.

5. A composition according to claim 3, wherein said terpolymer contains:

(a) residue units of an acrylic acid

(b) residue units of an acrylate of formula:

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000



in which:

R_1 denotes H or CH_3, and

R_2 denotes an alkyl radical having from 12 to 22 carbon atoms, and

(c) residue units of a polyallyl ether.

6. A composition according to claim 2, wherein said residue units (a) are present in an amount ranging from 60 to 95% by weight, said residue units (b) are present in an amount ranging from 4 to 40% by weight, and said residue units (c) are present in an amount ranging from 0.1 to 6% by weight, relative to the total weight of the crosslinked polymer.

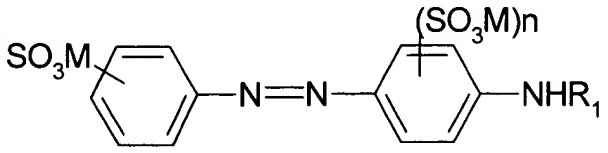
7. A composition according to claim 6, wherein said residue units (a) are present in an amount ranging from 96 to 98% by weight, said residue units (b) are present in an amount ranging from 1 to 4% by weight, and said residue units (c) are present in an amount ranging from 0.1 to 0.6% by weight, relative to the total weight of the crosslinked polymer.

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

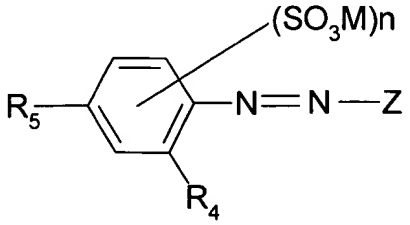
8. A composition according to claim 1, wherein said at least one crosslinked polymer is present in an amount ranging from 0.05 to 5% by weight relative to the total weight of said composition.

9. A composition according to claim 8, wherein said at least one crosslinked polymer is present in an amount ranging from 0.1 to 3% by weight relative to the total weight of said composition.

10. A composition according to claim 1, wherein said at least one direct dye is an acid azo dye of formulae (I) or (I'):

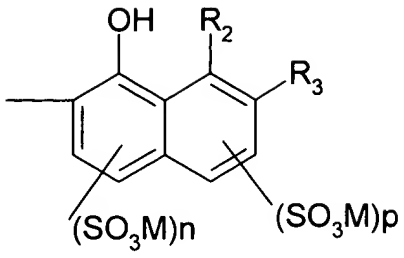


(I)

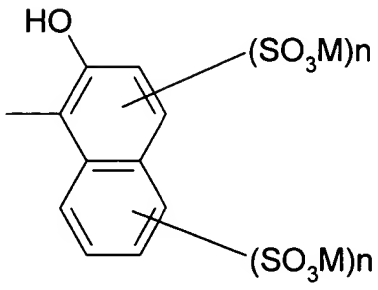


(I')

in which Z denotes (I')a or (I')b:



(I')a



(I')b

in which:

n denotes zero or 1,

p denotes zero, 1 or 2,

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

M denotes H or an alkali or alkaline-earth counterion, an organic amine which may be hydroxylated or not hydroxylated, or ammonia,

R_1 denotes H, a C_1-C_4 alkyl radical or an cycloalkylaryl radical,

R_2 denotes H, an -NH_2 radical, an -HN-CO-CH_3 radical or an -$NHSO_2$-phenyl radical,

R_3 denotes H, or a -N=N-(para-nitrophenyl) radical,

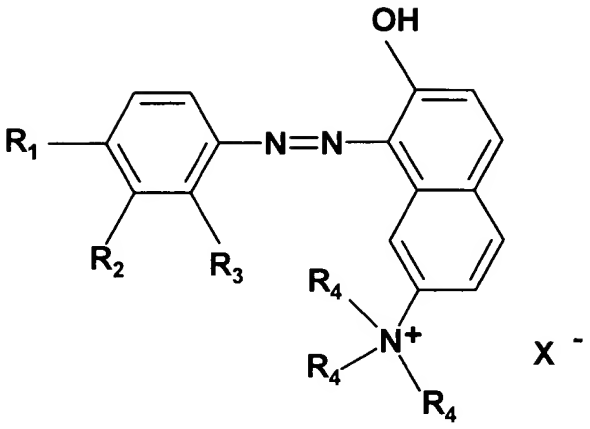
R_4 denotes a H, a C_1-C_4 alkyl radical, a C_1-C_4 alkoxyl radical, or forms a naphtalenyl ring with the adjacent carbon atom which is unsubstitued of the phenyl group,

R_5 denotes H, a C_1-C_4 alkyl radical, an -SO_3Na radical, a -NH_2 radical, an -HN-CO-CH_3 radical or an -NO_2 radical, and in which at least one -SO_3M group is present in formulae (I), (I')a and (I')b.

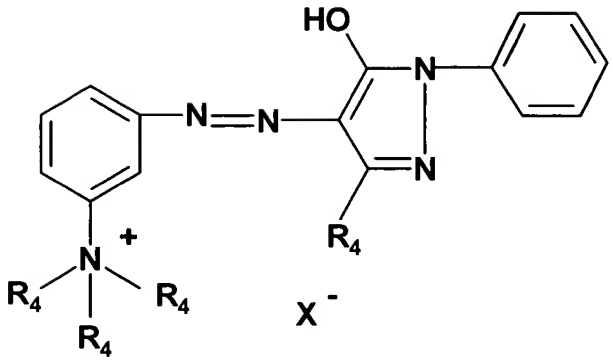
11. A composition according to claim 1, wherein said at least one direct dye is a cationic azo dye of formulae (II), (III), (IV), (V), (VI), (VI'), (VII) and their mesomeric forms, wherein

(i) dyes of formulae (II) and (III) are:

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000



(II)



(III)

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

in which:

R_1 denotes H or an $-NH_2$ radical,

R_2 denotes H or a $-NO_2$ radical,

R_3 denotes H or a $-NO_2$ radical or an C_1-C_4 alkoxyl radical,

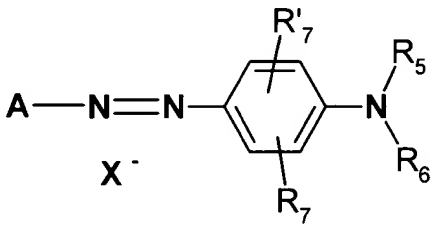
R_4 denotes a C_1-C_4 alkyl radical,

X^- denotes an anion chosen from chloride, methyl sulphate and acetate,

wherein;

(ii) dyes of formulae (IV), (V), (VI), (VI'), (VII) include:

a) the compounds of formula (IV):



(IV)

in which:

R_5 and R_6, which may be identical or different, denote a hydrogen atom, C_1-C_4 alkyl radicals which can have a substituent chosen from -CN, -OH and $-NH_2$ radicals, and a 4'-aminophenyl radical, or form, with a carbon atom of the benzene ring, a heterocycle, oxygenated and/or nitrogenated and optionally having at least one substituent chosen from C_1-C_4 alkyl radicals,

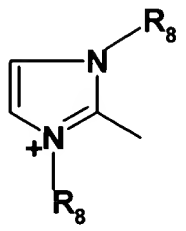
R_7 and R'_7 which may be identical or different, denote a hydrogen atom, a halogen atom chosen from chlorine, bromine, iodine and fluorine, a cyano radical,

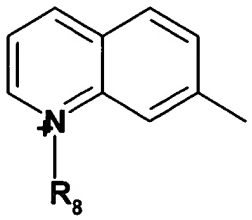
LAW OFFICES
FINNEGAN, HENDERSON, FARABOW, GARRETT, & DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

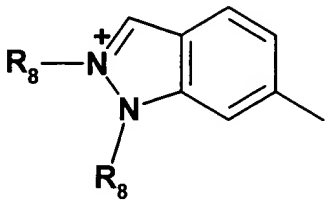
a C_1-C_4 alkyl radical, a C_1-C_4 alkoxy radical, or an acetyloxy radical,

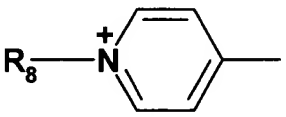
X^- denotes an anion chosen from chloride, methyl sulphate and acetate;

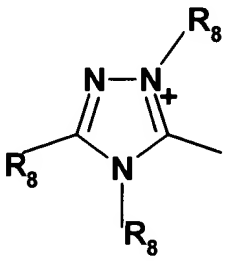
A is a group chosen from structures A_1 to A_{19}:

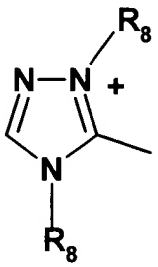

A_1 ;

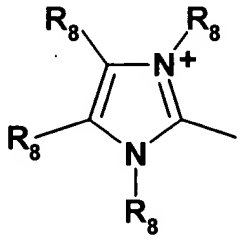

A_2 ;

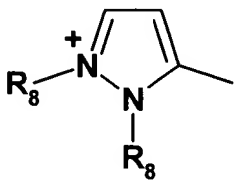

A_3 ;

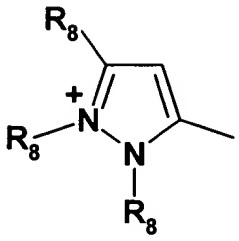

A_4 ;

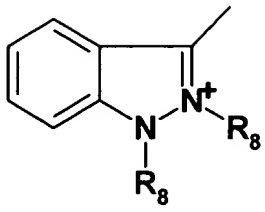

A_5 ;


A_6 ;

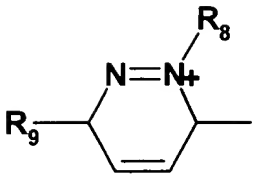

A_7 ;


A_8 ;

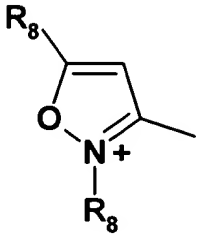

A_9 ;



;

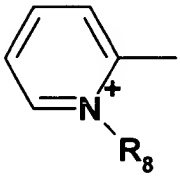


;

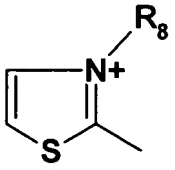


;

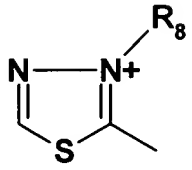
A_{10} A_{11} A_{12}



;

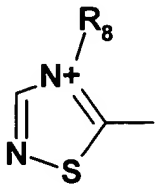


;

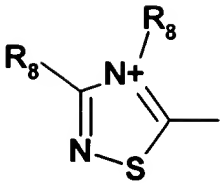


;

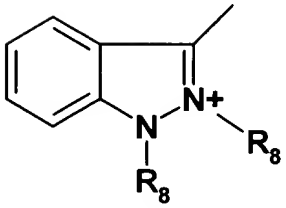
A_{13} A_{14} A_{15}



;

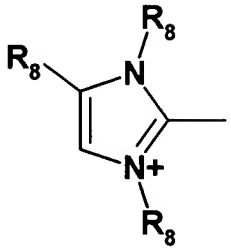


;



A_{16} A_{17} A_{18}

and



A_{19}

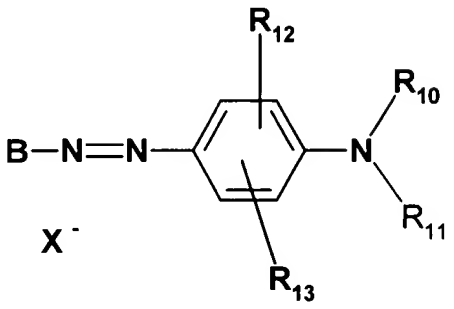
in which,

LAW OFFICES 5
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

R_8 denotes a C_1-C_4 alkyl radical which can be substitued with a hydroxyl radical and

R_9 denotes a C_1-C_4 alkoxy radical,

b) the compounds of formula (V):



(V)

in which:

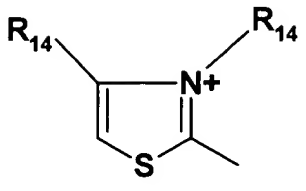
R_{10} denotes hydrogen or a C_1-C_4 alkyl radical,

R_{11} denotes hydrogen or a C_1-C_4 alkyl radical optionally having a substituent chosen from a -CN radical, an amino radical, and a 4'-aminophenyl radical, or forms with R_{10} a heterocycle, oxygenated and/or nitrogenated and optionally having at least one substituent chosen from a C_1-C_4 alkyl radical,

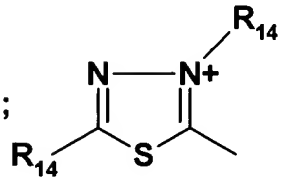
R_{12} and R_{13}, which may be identical or different, denote a hydrogen atom, a halogen atom chosen from bromine, chlorine, iodine or fluorine, a C_1-C_4 alkyl radical, a C_1-C_4 alkoxy radical, or a -CN radical,

X^- denotes an anion chosen from chloride, methyl sulphate and acetate;

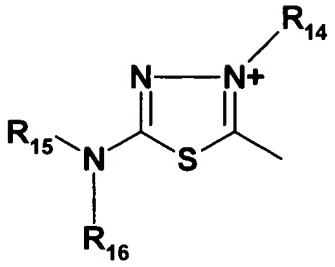
B is a group chosen from structures B1 to B6:



;

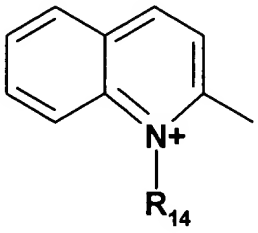


;

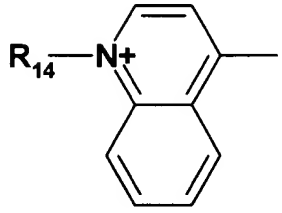


;

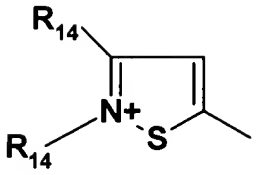
B1 B2 B3



;



et



;

B4 B5 B6

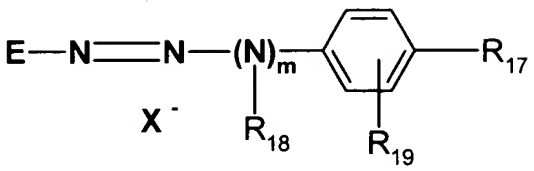
in which,

R_{14} denotes a C_1-C_4 alkyl radical, and

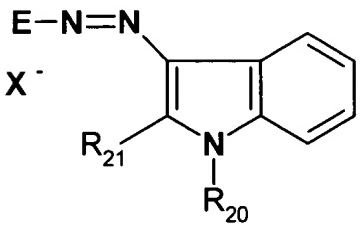
R_{15} and R_{16}, which may be identical or different, denote a hydrogen atom or a C_1-C_4 alkyl radical;

c) the compounds of formulae (VI) and (VI'):

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000



(VI)



(VI')

in which:

R_{17} denotes a hydrogen atom, a C_1-C_4 alkoxy radical, a halogen atom chosen from bromine, chlorine, iodine and fluorine, an unsubstitued amino radical, or a substitued amino radical,

R_{18} denotes a hydrogen atom, a C_1-C_4 alkyl radical, or forms with a carbon atom of the benzene ring, a heterocycle which is optionally oxygenated and optionally having at least a substituent chosen from a C_1-C_4 alkyl radical,

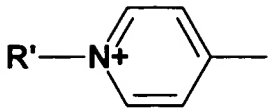
R_{19} denotes a hydrogen atom or a halogen atom chosen from bromine, chlorine, iodine and fluorine,

R_{20} and R_{21}, which may be identical or different, denote a hydrogen atom or a C_1-C_4 alkyl radical,

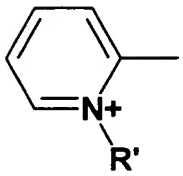
m is zero or 1,

X^- denotes an anion chosen from chloride, methyl sulphate and acetate;

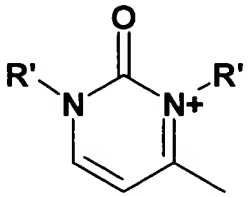
E is a group chosen from structures E1 to E8:



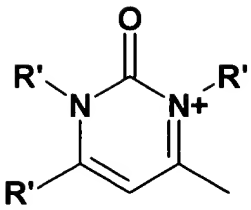
E1 ;



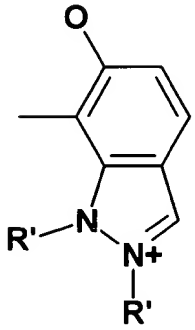
E2 ;



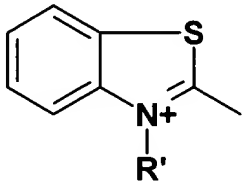
E3 ;



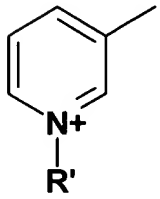
E4 ;



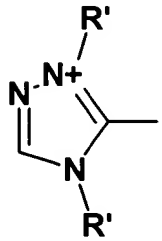
E5 ;



E6 ;



E7 and



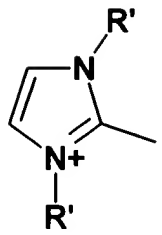
E8

in which,

R' denotes a C_1-C_4 alkyl radical,

when m is 0, then E can also be a group of structure E9:

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

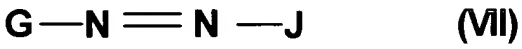


E9

in which,

R' denotes a C_1-C_4 alkyl radical,

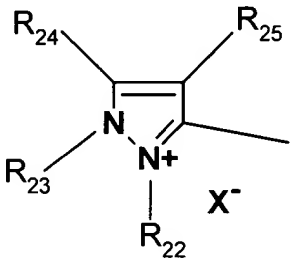
d) the compounds of formula (VII):



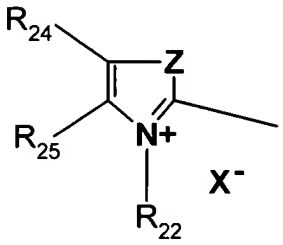
(VII)

in which,

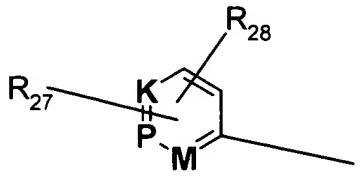
the symbol G represents a group chosen from structures G1 to G3:



G_1



G_2



G_3

in which,

LAW OFFICES
FINNEGAN, HENDERSON, FARABOW, GARRETT, & DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

R_{22} denotes a C_1-C_4 alkyl radical or a phenyl radical optionally having a substituent chosen from a C_1-C_4 alkyl radical and a halogen atom chosen from chlorine, bromine, iodine and fluorine,

R_{23} denotes a C_1-C_4 alkyl radical or a phenyl radical,

R_{24} and R_{25}, which may be identical or different, denote a C_1-C_4 alkyl radical or a phenyl radical or, in the case of structure G_1, can together form a benzene ring having at least one substituent chosen from a C_1-C_4 alkyl radical, a C_1-C_4 alkoxy radical and an $-NO_2$ radical, and in the case of structure G_2, can together form a benzene ring optionally having at least one substituent chosen from a C_1-C_4 alkyl radical, a C_1-C_4 alkoxy radical and an $-NO_2$ radical, wherein R_{24} can also denote a hydrogen atom,

Z denotes chosen from an oxygen atom, a sulphur atom or an $-NR_{23}$ radical;

M denotes a -CH radical, a -CR radical wherein R is chosen from a C_1-C_4 alkyl radical, or an $-NR_{26}(X^-)_r$ radical, wherein r is zero or 1,

K denotes a -CH radical, a -CR radical wherein R is chosen from a C_1-C_4 alkyl radical, or an $-NR_{26}(X^-)_r$ radical wherein r is zero or 1,

P denotes a -CH radical, a -CR radical wherein R is chosen from a C_1-C_4 alkyl radical, or an $-NR_{26}(X^-)_r$ radical wherein r is zero or 1,

R_{26} denotes an oxygen atom, a C_1-C_4 alkoxy radical or a C_1-C_4 alkyl radical,

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

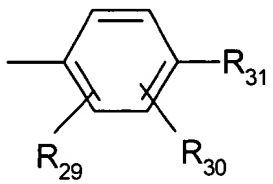
R_{27} and R_{28}, which may be identical or different, denote a hydrogen atom, a halogen atom chosen from chlorine, bromine, iodine and fluorine, a C_1-C_4 alkyl radical, a C_1-C_4 alkoxy radical or an -NO_2 radical,

X^- denotes an anion chosen from chloride, iodide, methyl sulphate, ethyl sulphate, acetate and perchlorate, and

wherein at least one of K, M or P denotes -$NR_{26}(X^-)_r$,

wherein the symbol J is chosen from:

(a) a group of structure J_1:



J_1

in which,

R_{29} denotes a hydrogen atom, a halogen atom chosen from chlorine, bromine, iodine and fluorine, a C_1-C_4 alkyl radical, a C_1-C_4 alkoxy radical, a -OH radical, an -NO_2 radical, an -NHR_{32} radical, an -$NR_{33}R_{34}$ radicals, an -$NHCO(C_1$-C_4)alkyl radical, or forms with R_{30} a 5- or 6-membered ring which may contain at least one hetero atom chosen from nitrogen, oxygen and sulphur,

R_{30} denotes a hydrogen atom, a halogen atom chosen from chlorine, bromine, iodine and fluorine, a C_1-C_4 alkyl radical, a C_1-C_4 alkoxy radical, or forms, with R_{31} or

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

R_{32} a 5- or 6-membered ring which may contain at least one hetero atom chosen from nitrogen, oxygen and sulphur,

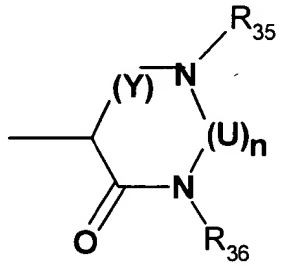
R_{31} denotes a hydrogen atom, an -OH radical, an $-NHR_{32}$ radical or an $-NHR_{33}R_{34}$ radical,

R_{32} denotes a hydrogen atom, a C_1-C_4 alkyl radical, a C_1-C_4 monohydroxyalkyl radical, a C_2-C_4 polyhydroxyalkyl radical or a phenyl radical,

R_{33} and R_{34}, which may be identical or different, denote a C_1-C_4 alkyl radical, a C_1-C_4 monohydroxyalkyl radical or a C_2-C_4 polyhydroxyalkyl radical, and

(b) a 5- or 6-membered nitrogenous heterocyclic group which can contain at least one other hetero atom and/or at least one carbonyl group and which can have at least one substituent chosen from a C_1-C_4 alkyl radical, an amino radical or a phenyl radical.

12. A composition according to claim 11, wherein said 5- or 6-membered nitrogenous heterocyclic group is chosen from a group of structure J_2:



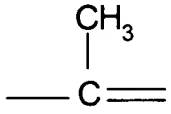
J_2

in which,

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

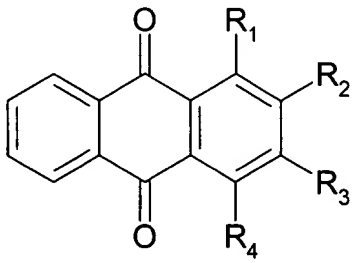
R_{35} and R_{36}, which may be identical or different, denote a hydrogen atom, a C_1-C_4 alkyl radical, or a phenyl radical,

Y denotes a -CO- radical or a radical



wherein n = 0 or 1, where, when n denotes 1, U denotes a -CO- radical.

13. A composition according to claim 1, wherein said at least one direct dye is acid anthraquinonic dyes of formulae (VIII):



(VIII)

in which:

R_1 denotes a hydrogen atom, a $-NH_2$ radical, or a $-NHR_5$ radical, as defined below,

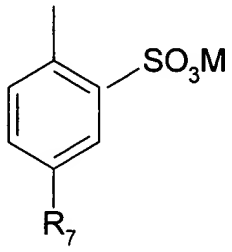
R_2 denotes a hydrogen atom or a $-SO_3M$ radical where M denotes H or an alkaline or alkaline-earth counterion, an organic amine which may be hydroxylated or not hydroxylated, or ammonia,

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

R_3 denotes a hydrogen atom or a -OH radical,

R_4 denotes a $-NHR_6$ radical, a -OH radical, or an $-NHR_5$ radical,

R_5 denotes a radical of structure below:

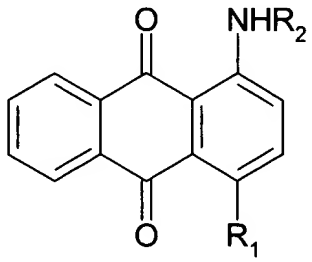


in which R_7 represents a C_1-C_4 alkyl radical,

R_6 denotes a linear or cyclic C_1-C_6 alkyl radical,

and in which formula (VIII), at least one $-SO_3M$ radical is present.

14. A composition according to claim 1, wherein said at least one direct dye is a cationic anthraquinonic dye of formula (IX):



(IX)

in which:

R_1 denotes a hydrogen atom, a -OH radical, a $-NH_2$ radical, or a

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

-NH(C_1-C_4)alkyl radical,

R_2 denotes a -$(CH_2)_n$-$NR_3R_4(R_5)_m$- radical, in which n denotes 1 or 10, m denotes zero or 1, and

R_3, R_4, R_5 which may be identical or different, denotes a hydrogen atom or a C_1-C_4 alkyl radical, and

wherein R_3 and R_4, with the nitrogenous atom, can form a 5- or 6-membered heterocycle group which can contain at least one other hetero atom chosen from nitrogen, oxygen or sulphur and optionally having at least one substituent chosen from C_1-C_4 alkyl radicals, amino radicals, and phenyl radicals.

15. A composition according to claim 1, wherein said cosmetically acceptable support suitable for dyeing is an aqueous support comprising water or water and at least one organic solvent selected from alcohols, glycols and glycol ethers.

16. A composition according to claim 15, wherein said cosmetically acceptable support suitable for dyeing is present in an amount ranging from 0.5 to 20% by weight relative to the total weight of said composition.

17. A composition according to claim 16, wherein said cosmetically acceptable support suitable for dyeing is present in an amount ranging from 2 to 10% by weight relative to the total weight of said composition.

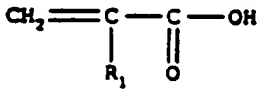
LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

18. A composition according to claim 1, wherein said composition further comprises at least one adjuvant.

19. A composition according to claim 1, wherein said composition is in the form of a liquid, a cream, a gel, or any other form suitable for dyeing hair.

20. A composition according to claim 1, wherein said composition is packaged under pressure in an aerosol can in the presence of a propellant.

21. A process of improving the conservation of the dyeing power of a direct dye composition by including in said composition an effective amount of at least one crosslinked polymer containing acrylic residue units of the structure

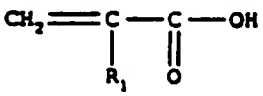


in which R_1 denotes H, CH_3 or C_2H_5, and C_{10}-C_{30} alkyl acrylate residue units, and wherein said at least one direct dye is chosen from an acidic anthraquinone dye, a cationic anthraquinone dye, an acidic azo dye, and a cationic azo dye.

22. A process according to claim 21, of improving the conservation of the dyeing power of a direct dye composition after storage at low temperatures.

LAW OFFICES
FINNEGAN, HENDERSON, FARABOW, GARRETT, & DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

23. A process for dyeing hair by direct dyeing, comprising: applying to said hair when wet or dry an effective amount of a composition comprising, in a cosmetically acceptable support suitable for dyeing, at least one direct dye and at least one crosslinked polymer containing acrylic residue units of the structure



in which R_1 denotes H, CH_3 or C_2H_5, and C_{10}-C_{30} alkyl acrylate residue units, and wherein said at least one direct dye is chosen from an acidic anthraquinone dye, a cationic anthraquinone dye, an acidic azo dye, and a cationic azo dye.

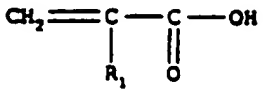
24. A process according to claim 23, further comprising, after said applying step, leaving said composition on said hair for a period of time; rinsing said hair; optionally washing and rinsing said hair; and drying said hair.

25. A process according to claim 23, wherein said composition is left on said hair for a period of time ranging from 3 to 60 minutes.

26. A process for dyeing hair by direct dyeing, comprising: applying to said hair when wet an effective amount of a composition comprising, in a cosmetically acceptable support suitable for dyeing, at least one direct dye and at least one

LAW OFFICES
FINNEGAN, HENDERSON, FARABOW, GARRETT, & DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

crosslinked polymer containing acrylic residue units of the structure



in which R_1 denotes H, CH_3 or

C_2H_5, and C_{10}-C_{30} alkyl acrylate residue units, and wherein said at least one direct dye is an anthraquinone or azo dye which is acidic or cationic.

27. A process according to claim 25, further comprising waiting a period of time after said applying step and before said drying step.